REMARKS

This paper responds to the Office Action mailed on June 29, 2005.

Claims 1, 11, 13, 15-17, and 24 are amended. Claims 1-44 remain pending in this application.

Independent claim 1 is amended to include the things at least similar to the things recited in the other previously presented claims.

Independent claims 11, 13, and 24 are amended to replace "the" with "a" only for clarity. The amendment to claims 11 and 13 does not alter the scope of claims 11 and 13.

Dependent claims 15-17 were allowable. Claims 15-17 are amended only to rewrite claims 15-17 in independent form, as suggested by the Office Action.

Information Disclosure Statement

Applicant submitted an Information Disclosure Statement and a 1449 Form with the application on July 11, 2001. Applicant respectfully requests an initialed copy of the 1449 Form be returned to Applicant's Representatives to indicate that the cited references have been considered by the Examiner.

§112 Rejection of the Claims

Claims 7, 11, 13, 23, 24, 31, and 32 were rejected under 35 U.S.C. § 112, first paragraph, for lack of enablement.

Applicant respectfully traverses.

The Office Action states:

> "The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 11 recites a logic circuit receiving the shifting signals and the select signal. Based on the diagram and specification, page 7, lines 16-24, the logic circuit receives the shifting signals, but the phase detector receives the selected signal. The logic circuit recited in claims 7, 11, 13, 23, 24, 31, and 32 will be considered as described in the specification and diagrams."

Applicant respectfully submits that the Office Action misinterpreted Applicant's diagram and specification, page 7, lines 16-24. The Office Action's statement that "Based on the diagram and specification, page 7, lines 16-24, the logic circuit receives the shifting signals, but the phase detector receives the selected signal" is incorrect. Applicant submits that the diagram and specification, page 7, lines 16-24, shows and describes the logic circuit receiving the shifting signals, and the logic circuit (not the phase detector as interpreted by the Office Action) also receiving the select signal.

The specification, page 7, lines 16-24, describes, among other things, logic circuit 185 to receive the SL and SA signals (page 7, lines 17-18) and to receive the SR and SD signals (page 7, lines 19-20). In the diagram, FIG. 1 shows logic circuit 185 receiving the SL signal (from line 160), the SR signal (from line 162), the SA signal (from line 141), and the SD signal (from line 144). Thus, according to the diagram (FIG. 1) and the specification, page 7, lines 16-24, logic circuit 185 receives the SL, SR, SA, and SD signals. As described in the specification, page 7 line 13, the SL and SR signals are shifting signals provided by phase detector 180. As described in the specification, page 6 line 18, the SA and SD signal are select signals provided by shift register 150.

Thus, in claims 7, 11, 13, 23, 24, 31, and 32, the recitation of the logic circuit receiving the shifting signals and the select signal is expressly supported by the diagram and the specification. Accordingly, Applicant requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, first paragraph.

§102 Rejection of the Claims

Claims 1-3 were rejected under 35 USC § 102(b) as being anticipated by Kondo (U.S. Patent No. 6,297,680).

Applicant respectfully traverses.

In dependent claim 1 is amended and recites, among other things, "the fine delay segment is configured for adjusting the fine delay based on a plurality of shifting signals that are generated when the external and internal signals are not synchronized, wherein the coarse delay is configured for adjusting the coarse delay based on a logical combination of the plurality of

shifting signals and a plurality of select signals, and wherein the select signals are used to select the fine delay applied to the coarse delay signal". Applicant is unable to find in Kondo "the fine delay segment is configured for adjusting the fine delay based on a plurality of shifting signals that are generated when the external and internal signals are not synchronized, wherein the coarse delay is configured for adjusting the coarse delay based on a logical combination of the plurality of shifting signals and a plurality of select signals, and wherein the select signals are used to select the fine delay applied to the coarse delay signal," as recited in claim 1. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 1.

Dependent claims 2 and 3 depend from claim 1 and include its language. Thus, Applicant submits that claims 2 and 3 are not anticipated by Kondo for at least the reasons presented above regarding claim 1 and for the additional language recited in claims 2 and 3. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 2 and 3.

Claims 42-44 were rejected under 35 USC § 102(b) as being anticipated by Baker et al. (U.S. Patent No. 6,445,231).

Applicant respectfully traverses.

Independent claim 42 recites, among other things, adjusting the fine delay "in response to the shifting signals" and adjusting the coarse delay in "response to the shifting signals" and the unequal amounts of fine delay applied to the coarse delayed signal. Thus, both the coarse delay and the fine delay, as claimed in claim 42, are adjusted in response to the same shifting signals.

Baker et al. teaches a delay locked loop (DLL) having a coarse loop 205a and a fine loop 205b (FIG. 2A). Coarse loop 205a and fine loop 205b of Baker et al. adjust a coarse delay and a fine delay based on different (not the same) shifting signals. For example, in FIG. 3A of Baker et al., coarse loop 205a adjusts the coarse delay of a delay line 310 based on shifting signals SL and SR provided by a phase detector 302. In FIG. 9 of Baker et al., fine loop 205b adjusts a fine delay of a delay line 910 based on shifting signals SL and SR provided by a different phase detector 902. The shifting signals provided by phase detector 302 are different from the shifting signals provided by phase detector 902. Thus, coarse loop 205a and fine loop 205b of Baker et al. adjust the coarse delay and the fine delay based on different shifting signals. In contrast to

Baker et al., the coarse delay and the fine delay recited in claim 42 are adjusted in response to the same shifting signals. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowanced of claim 42.

Dependent claims 43 and 44 depend from claim 42 and recite the things of claim 42. Thus, Applicant believes that claims 43 and 44 are not anticipated by Baker et al. for at least the reasons presented above regarding claim 42 and for the additional things recited in claims 43 and 44. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 43 and 44.

§103 Rejection of the Claims

Claims 4-6 were rejected under 35 USC § 103(a) as being unpatentable over Kondo in view of Keeth et al. (U.S. Patent No. 6,101,197).

Applicant respectfully traverses.

Dependent claims 4-6 depend from claim 1 and recite the things of claim 1 such as "the fine delay segment is configured for adjusting the fine delay based on a plurality of shifting signals that are generated when the external and internal signals are not synchronized, wherein the coarse delay is configured for adjusting the coarse delay based on a logical combination of the plurality of shifting signals and a plurality of select signals, and wherein the select signals are used to select the fine delay applied to the coarse delay signal". Applicant in unable to find in Kondo and Keeth et al., either individual or in combination, "the fine delay segment is configured for adjusting the fine delay based on a plurality of shifting signals that are generated when the external and internal signals are not synchronized, wherein the coarse delay is configured for adjusting the coarse delay based on a logical combination of the plurality of shifting signals and a plurality of select signals, and wherein the select signals are used to select the fine delay applied to the coarse delay signal". Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 4-6.

Claims 7, 8, and 10-14 were rejected under 35 USC § 103(a) as being unpatentable over Kondo in view of Oh (U.S. Patent No. 6,765,976).

Applicant respectfully traverses.

Independent claim 7 recites, among other things, a fine delay segment including a selector, "the selector responsive to a select signal" to select from among the fine delay signals to generate an internal clock signal, wherein "the fine delay segment is configured to provide the select signal based on the plurality of shifting signals", and "a logic circuit responsive to the combination of the plurality of shifting signals and the select signal" to enable the coarse delay segment to adjust the coarse delay.

Page 5 of the Office Action asserts that Kondo teaches in FIG. 3 a fine delay segment 301 including a selector, the selector responsive to a select signal (one of the signals ϕCTL, ϕ2, and ϕ3) for selecting a fine delay of fine delay segment 301. Page 6 of the Office Action asserts that fine delay segment 301 of Kondo provides a selected signal based on the plurality of shifted signals (ϕCTL and ϕ2). Since the ϕCTL and ϕ2 are referred to as the shifted or shifting signals by the Office Action on page 6, the ϕ3 signal mentioned on page 5 of the Office Action is considered as the select signal ϕ3. As shown in FIG. 1 and FIG. 3 of Kondo, the ϕ3 signal (select signal) is provided by a filter 304 and not by fine delay segment 301. Applicant is unable to find in Kondo a showing or a fair suggestion that fine delay segment 301 of Kondo includes a selector responsive to the select signal (such as the ϕ3 signal), in which fine delay segment 301 is configured to provide the select signal based on the plurality of shifting signals, as recited in claim 7.. In contrast to Kondo, claim 7 recites, among other things, a fine delay segment including a selector, "the selector responsive to a select signal" to select from among the fine delay signals to generate an internal clock signal, wherein "the fine delay segment is configured to provide the select signal based on the plurality of shifting signals".

Kondo further shows in FIG. 1 a combination of a phase comparator 302 and shift register 303 to generate shifting signals ϕCTL and ϕ2 to control a coarse delay line 300. Oh shows in FIG. 5 a phase detector 110 having a logic circuit 356 to generate shifting signals SL and SR to control a coarse delay tuning 102. Thus, both Kondo and Oh show a phase detector to *generate* the shifting signals (ϕCTL and ϕ2, or SL and SR) to control a coarse delay line. Applicant is unable to find in Kondo and Oh, either individual or in combination, a phase detector that is *responsive* to shifting signals or *responsive* to a combination of shifting signals and a select signal. In contrast, claim 7 recites, among other things, "a logic circuit responsive to

the combination of the plurality of shifting signals and the select signal" to enable the coarse delay segment to adjust the coarse delay.

Based on at least the reasons presented above, Applicant believes that claim 7 is patentable over Kondo and Oh, either individually or in combination. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowanced of claim 7.

Dependent claims 8 and 10 depend from claim 7 and recite the language of claim 7 such as a fine delay segment including a selector, "the selector responsive to a select signal" to select from among the fine delay signals to generate an internal clock signal, wherein "the fine delay segment is configured to provide the select signal based on the plurality of shifting signals", and "a logic circuit responsive to the combination of the plurality of shifting signals and the select signal" to enable the coarse delay segment to adjust the coarse delay. Thus, Applicant believes that claims 8 and 10 are patentable over Kondo and Oh for at least the reasons presented above regarding claim 7, and for the additional language recited in claims 8 and 10. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 8 and 10.

Independent claim 11 recites, among other things, "a logic circuit to receive the shifting signals and a select signal" to enable the coarse delay segment to adjust the coarse delay, and a fine delay segment including a shift register, the "shift register receiving the shifting signals to activate the select signal".

As presented above regarding claim 7, both Kondo and Oh teach a phase detector to *generate* the shifting signals (ϕCTL and ϕ2, or SL and SR) to control a coarse delay line. Applicant is unable to find in Kondo and Oh, either individual or in combination, a phase detector that is *responsive* to shifting signals or *responsive* to a combination of shifting signals and a select signal. Further, Applicant is unable to find in Kondo and Oh, either individually or in combination, a fine delay segment including a shift register, the shift register receiving the shifting signals "to activate the select signal". Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowanced of claim 11.

Dependent claim 12 depends from claim 11 and recite the things of claim 11 such as "a logic circuit to receive the shifting signals and a select signal" to enable the coarse delay segment to adjust the coarse delay, and a fine delay segment including a shift register, the "shift register

receiving the shifting signals to activate the select signal". Thus, Applicant submits that claims 12 is patentable over Kondo and Oh for at least the reasons presented above regarding claim 11, and for the additional things recited in claims 12. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 12.

Independent claim 13 recites, among other things, a selector connected to the fine delay paths to select one of the fine delayed signals based on "select signals" to provide an internal clock signal", a shift register connected to the phase detector and the selector, the shift register receiving the shifting signals "to activate the select signals", and a logic circuit including inputs connected to the shift register and the phase detector "to receive the shifting signals and the select signals" to provide coarse adjust signals. Applicant is unable to find in Kondo and Oh, either individually or in combination, a selector connected to the fine delay paths to select one of the fine delayed signals based on "select signals" to provide an internal clock signal, a shift register connected to the phase detector and the selector, the shift register receiving the shifting signals "to activate the select signals", and a logic circuit including inputs connected to the shift register and the phase detector "to receive the shifting signals and the select signals" to provide coarse adjust signals. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claim 13.

Dependent claim 14 depends from claim 13 and recite the language of claim 13 such as a selector connected to the fine delay paths to select one of the fine delayed signals based on "select signals" to provide an internal clock signal", a shift register connected to the phase detector and the selector, the shift register receiving the shifting signals "to activate the select signals", and a logic circuit including inputs connected to the shift register and the phase detector "to receive the shifting signals and the select signals" to provide coarse adjust signals. Thus, Applicant submits that claims 14 is patentable over Kondo and Oh for at least the reasons presented above regarding claim 13, and for the additional things recited in claims 14. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 14.

Claim 9 was rejected under 35 USC § 103(a) as being unpatentable over Kondo in view of Oh and further in view of Keeth et al.

Dependent claims 9 depend from claim 7 and recite the language of claim 7 such as a fine delay segment including a selector, "the selector responsive to a select signal" to select from among the fine delay signals to generate an internal clock signal, wherein "the fine delay segment is configured to provide the select signal based on the plurality of shifting signals", and "a logic circuit responsive to the combination of the plurality of shifting signals and the select signal" to enable the coarse delay segment to adjust the coarse delay. Applicant is unable to find in Kondo, Oh, and Keeth et al., either individually or in combination, "the selector responsive to a select signal" to select from among the fine delay signals to generate an internal clock signal, wherein "the fine delay segment is configured to provide the select signal based on the plurality of shifting signals", and "a logic circuit responsive to the combination of the plurality of shifting signals and the select signal" to enable the coarse delay segment to adjust the coarse delay for at least the reasons presented above regarding claim 7 and for the additional things recited in claims 9. Accordingly, Applicant requests reconsideration and withdrawal of the rejection, and allowance of claims 9.

Baker et al. (U.S. Patent No. 6,445,231) in combination with one or more other art

Claims 18, 20-22, 28, 30, 31, and 33 were rejected under 35 USC § 103(a) as being unpatentable over Kondo in view of Baker et al.

Claims 19 and 29 were rejected under 35 USC § 103(a) as being unpatentable over Kondo in view of Baker et al. and further in view of Keeth et al.

Claims 23, 25-27 were rejected under 35 USC § 103(a) as being unpatentable over Baker et al. in view of Kondo and further in view of Oh.

Claim 34 was rejected under 35 USC § 103(a) as being unpatentable over Baker et al. in view of Keeth et al.

Claim 35 was rejected under 35 USC § 103(a) as being unpatentable over Baker et al. in view of Keeth et al., further in view of Kondo, further in view of Oh.

Claims 36-41 were rejected under 35 USC § 103(a) as being unpatentable over Baker et al. in view of Keeth et al., further in view of Kondo.

Applicant respectfully traverses. Baker et al. (U.S. Patent No. 6,445,231) is not prior art against the present application in accordance with 35 USC § 103(c).

As discussed previously in the Amendment and Response submitted in February 2005, Applicant submits that Baker et al. is not prior art with respect to the pending claims of the present application based on common ownership.

Baker et al. is issued on September 3, 2002, which is after the filing date (July 11, 2001) of the present application. Thus, Baker et al. may be asserted as a reference only under §102(e). A reference asserted under §102(e) that was commonly owned with an application at the time the invention was made cannot preclude patentability of the claims under 35 U.S.C. § 103, where the application has been filed on or after November 29, 1999. *35 U.S.C. § 103(c); 1233 OG 55 (April 11, 2000).*

The present application was filed on July 11, 2001, which is after November 29, 1999. The present application was assigned to Micron Technology Inc. Baker et al. was also assigned to Micron Technology Inc. Thus, Baker et al. is commonly owned with the present application and is not prior art with respect to all pending claims of the present application. Hence, the common ownership of Baker et al. and the present application renders the proposed combination of Baker et al. and other references moot. Thus, a proper *prima facie* case of obviousness under 35 U.S.C. § 103 has not been established. Accordingly, claims 18-23, 25-31, and 33-41 are patentable.

For a discussion about establishing common ownership, MPEP section 706.02(l)(2) states that the following statement is sufficient evidence to establish common ownership of, or an obligation for assignment to, the same person(s) or organizations(s):

> Applications and references (whether patents, patent applications, patent application publications, etc.) will be considered by the examiner to be owned by, or subject to an obligation of assignment to the same person, at the time the invention was made, if the applicant(s) or an attorney or agent of record makes a statement to the effect that the application and the reference were, at the time the invention was made, owned by, or subject to an obligation of assignment to, the same person.

Applicant makes such a statement with regard to the present application and Baker et al. (U.S. Patent No. 6,445,231). Specifically, Applicant states that at the time the inventions were

made, the present application and Baker et al. were owned by or subject to an obligation of assignment to Micron Technology Inc.

Based on the discussion above, Applicant requests reconsideration and withdrawal of the rejection under 35 USC § 103(a) in accordance with 35 USC § 103(c), and allowance of claims 18-23, 25-31, and 33-41.

Allowable Subject Matter

Claims 24 and 32 were allowed.

Applicant acknowledges the allowance of claim 24 and 32.

Claims 15-17 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Dependent claims 15-17 are amended only to rewrite claims 15-17 in independent form, as suggested by the Office Action. The rewriting of claims 15-17 does not alter the scope of claims 15-17. Thus, claims 15-17 are now in condition for allowance.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 373-6969 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date October 31, 2005

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 31 day of October, 2005.

KATE GANNON
Name

Signature